

**REMARKS**

Claims 1-28 are all the claims pending in the application.

In response to the Amendment filed February 5, 2003, the Examiner has repeated the previous claim rejections.

Thus, claims 1, 2, 8, 9, 15, 16, 22, and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over previously-cited Neitzel et al. (US 5,550,888, hereafter “Neitzel”) in view of previously-cited Geddes et al. (“Principles of Applied Biomedical Instrumentation,” hereafter (“Geddes”). Also, claims 1 and 15 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 3-7, 10-14, 17-21, and 24-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including the limitations of the base claim and any intervening claims.

As noted above, the Examiner has repeated the claim rejections from the previous Office Action. However, the Examiner has not responded to most of the arguments presented in the Amendment filed February 5, 2003.

In the Response to Remarks, the Examiner asserts that there is an antecedent basis problem with the claims, but the Examiner has failed to identify it. Instead, the Examiner refers to an indefiniteness issue with respect to the specificity of the claim language. Based on Applicant’s review of the claims, there does not appear to be an antecedent basis problem in the claims. Rather, it seems as though the Examiner is actually asserting that the claims are indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention.

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With respect to the indefiniteness rejection of claims 1 and 15, Applicant submits that “[t]he fact that claim language, including terms of degree, may not be precise, does not automatically render the claims indefinite under 35 U.S.C. § 112, second paragraph. *Seattle Box Co. v. Industrial Crating & Packaging, Inc.* 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984). Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.” M.P.E.P. § 2173.05(b). Applicant submits that one of ordinary skill in the art would understand what is claimed, in light of the specification.

As described in the February 5 Amendment, claims 1 and 15 recite a low signal value region and an intermediate and high signal value region. These regions are described in the specification at pages 12-13, for example, in reference to FIG. 2A. As described there, FIG. 2A shows a graph of the logarithmic brightness  $Y$  output by a brightness circuit versus the input image signal  $S$ . The signal  $S$  in FIG. 2A is shown as ranging from 0 to 100%, where 100% corresponds to  $S_{\max}$ . Thus, the signal  $S$  has lower values toward the left of the graph and higher values toward the right of the graph. The boundary between the low signal value region and the intermediate and high signal value region is designated as  $S_a$ , at which point a dashed line is shown. The output brightness characteristic of these regions is clearly described in the present specification at page 12, line 22 - page 13, line 13. Hence, Applicant submits that claims 1 and 15 are definite.

The Examiner appears to further criticize the independent claims for failing to include units. However, Fig. 2A nonetheless illustrates a relative percentage of the signal  $S$  to a max

value  $S_{\max}$  with respect to a log brightness. The claims need not describe the specific exemplary embodiment of Fig. 2A to meet the definiteness requirements of §112, second paragraph.

In reference to the prior art rejections, the Examiner responds to the February 5 Amendment by taking a position which contradicts the position taken in the Claim Rejections. In the Response to Remarks, the Examiner asserts that Neitzel illustrates a low signal value region and an intermediate and high signal value region. See page 3 of the Office Action. However, on page 5 of the Office Action, the Examiner states that Neitzel does not explicitly specify the boundary conditions for a low signal value region and an intermediate and high signal value region. Applicant submits that the Examiner cannot maintain both of these conflicting assertions.

In either case, however, the claims are allowable over the prior art, at least because the prior art fails to teach or suggest all of the limitations of the claims, as described in the February 5 Amendment. Specifically, the references do not disclose the limitations of claim 1 of setting the output brightness characteristic so that a rate of change, which represents a change in a logarithmic value of the output brightness with respect to a change in the input image signal value, in a low signal value region of the image signal becomes smaller than that in an intermediate and high signal value region of the input image signal. Briefly stated, Neitzel simply discloses performing a logarithmic transformation on the image data (col. 5, line 65 - col. 6, line 4), and Geddes discloses how the current applied to various tissues changes over time, which is irrelevant to the output brightness characteristic of claim 1 of the present invention. Moreover, Geddes discloses a current changing over time, while claim 1 recites a change in a logarithmic value of output brightness with respect to a change in the input image signal value.

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Furthermore, Geddes discloses that the rate of change in the current is larger at lower duration times. Thus, even if the teachings of Geddes were to be combined with the teachings of Neitzel, the combination of references would fail to teach or suggest all of the limitations of claim 1.

Furthermore, Applicant submits that there is no suggestion or motivation to combine the references. The disclosure of Geddes relates to the Lapicque strength-duration curve for current and strength-duration curves for various excitable tissues. Neitzel, however, relates to an apparatus and method of displaying x-ray images. Due to the disparate teachings of these references, it would not have been obvious to one of ordinary skill in the art at the time of the invention to have combined the references.

It is further noted that the Examiner's reliance on Fig. 2C of Neitzel to teach low, intermediate and high regions would support the position that Applicant's claims, with reference to the specification and figures, similarly describe low, intermediate and high regions with sufficient particularity. Therefore, to the extent the Examiner maintains the art rejection of claims 1 and 15, the §112 rejections should be withdrawn. The disclosed regions can be illustrated by exemplary graphs. If both the §112 and §103 rejections are maintained, Applicant requests the Examiner to explain why Fig. 2C of Neitzel illustrates the regions of low, intermediate and high values and relative rate of change.

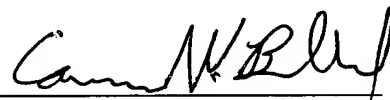
Based on the foregoing, Applicant submits that claims 1-28 are allowable.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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